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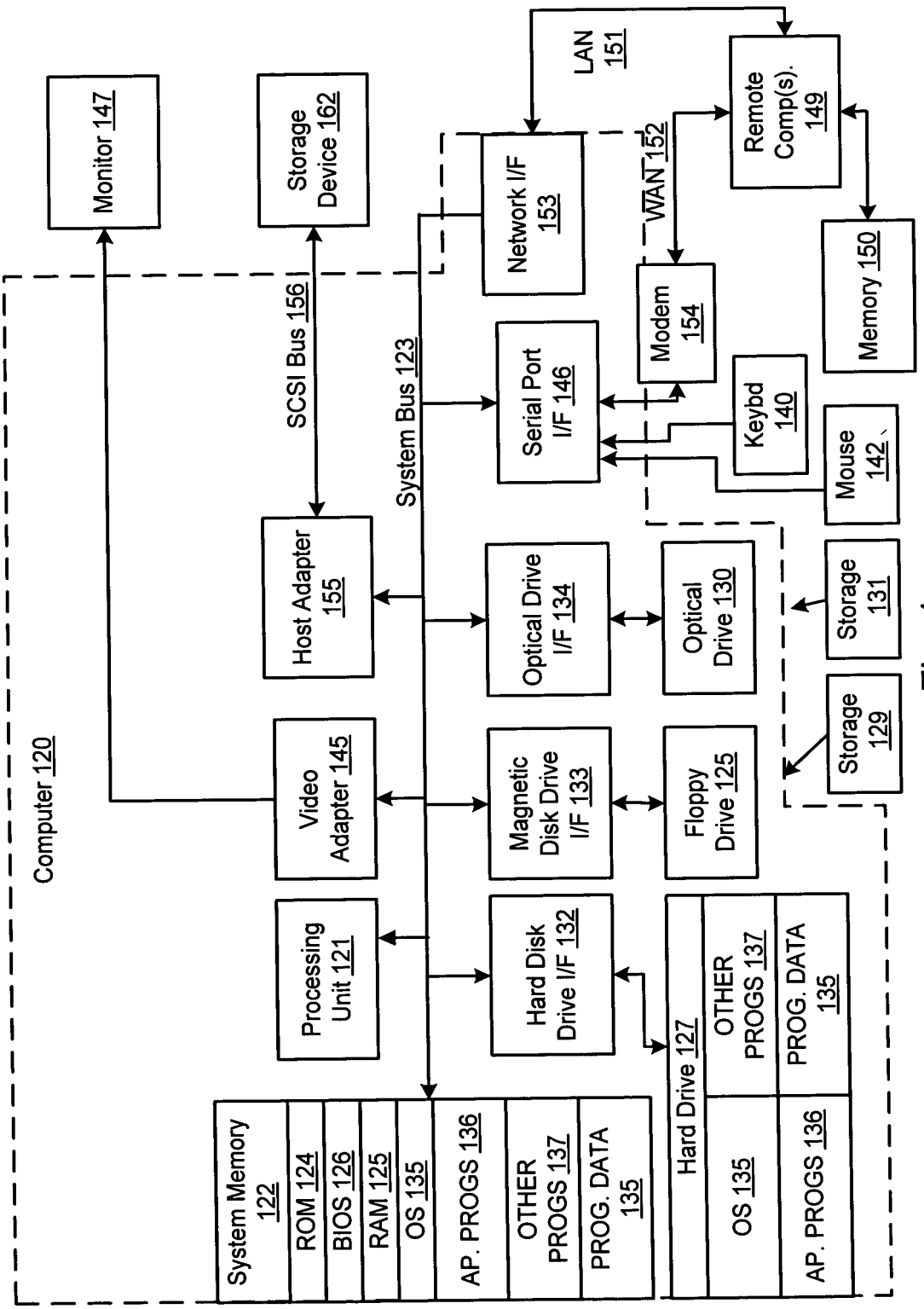
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Monitor 147
Storage Device 162
LAN 151
Remote Comp(s). 149
Network I/F 153
WAN 152
Modem 154
Memory 150
SCSI Bus 156
System Bus 123
Serial Port I/F 146
Keybd 140
Mouse 142
Host Adapter 155
Optical Drive I/F 134
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Storage 131
Storage 129
Video Adapter 145
Magnetic Disk Drive I/F 133
Floppy Drive 125
Processing Unit 121
Hard Disk Drive I/F 132
System Memory 122
ROM 124
BIOS 126
RAM 125
OS 135
AP. PROGS 136
OTHER PROGS 137
PROG. DATA 135
Hard Drive 127
OS 135
AP. PROGS 136
OTHER PROGS 137
PROG. DATA 135

Fig. 1

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Fig. 2

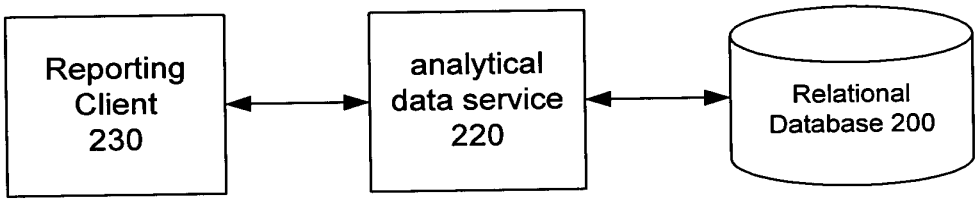
Reporting Client 230
analytical data service 220
Relational Database 200

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Fig. 3

Sales 300			
Customer ID 310	Country 320	Month 330	Sales Amount 340
1	Mex	Jan	1.00
1	Mex	Feb	3.00
1	Mex	March	5.00
2	Mex	Jan	2.00
2	Mex	Feb	4.00
2	Mex	March	6.00
1	Can	Jan	6.00
1	Can	Feb	4.00
1	Can	March	2.00
2	Can	Jan	5.00
2	Can	Feb	3.00
2	Can	March	1.00

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Fig. 4

Exchange 400		
Country 410	Month 420	Exchange Rate 430
Mex	Jan	1.5
Mex	Feb	1
Mex	March	2
Can	Jan	2
Can	Feb	1
Can	March	1.5

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Fig. 5

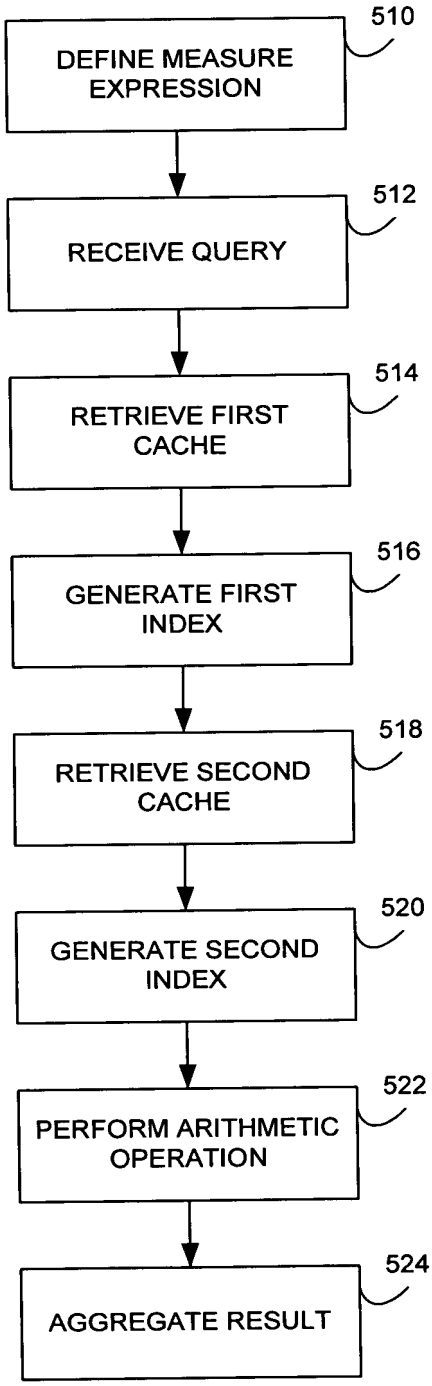
510
DEFINE MEASURE EXPRESSION
512
RECEIVE QUERY
514
RETRIEVE FIRST CACHE
516
GENERATE FIRST INDEX
518
RETRIEVE SECOND CACHE
520
GENERATE SECOND INDEX
522
PERFORM ARITHMETIC OPERATION
524
AGGREGATE RESULT

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Fig. 6

First Cache 600			
Customer ID 610	Country 620	Month 630	Sales Amount 640
1	Mex	Jan	1.00
1	Mex	Feb	3.00
1	Mex	March	5.00

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Fig. 7

First Index 700		
Country 710	Month 720	Sales Amount 730
Mex	Jan	1.00
Mex	Feb	3.00
Mex	March	5.00

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Fig. 8

Second Cache 800		
Country 810	Month 820	Exchange Rate 830
Mex	Jan	1.5
Mex	Feb	1
Mex	March	2

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Fig. 9

Calculation 900				
Country 910	Month 920	Sales Amount 930	Exchange Rate 940	US Sales 950
Mex	Jan	1.00	1.5	$1.50
Mex	Feb	3.00	1	$3.00
Mex	March	5.00	2	$10.00
TOTAL FOR FIRST QUARTER				$14.50